

Claims

1. A method of establishing a network connection capable of transmitting data from a computing device to a network wherein the computing device is capable of connecting to at least one network and of making requests for data from the at least one network and has a network connection with an existing network, the method comprising:
 - i: determining whether data requested by the computing device originates within the network;
 - ii: if the data requested by the computing device does originate within the network, breaking at least a portion of the network connection with the existing network and establishing a network connection with the network for that portion of the network connection that was previously connected to the existing network.
2. A method according to claim 1 which uses the Session Initiation Protocol (SIP) to initiate the breaking of the network connection to the existing network.
3. A method according to claim 1 in which at least one of the network and existing network comprises a plurality of sub connections and the method is applied to at least one of the sub connections.
4. A method according to claim 1 in which the portion of the network connection with the existing network that is broken is re-established once data no longer originates within the network.
5. A method according to claim 1 in which MobileIP is used to maintain a network connection with the existing network.

6. A method according to claim 1 in which the computing device is assigned an IP address within the network for transmission of data that originates from the network.
- 5 7. A method according to claim 6 in which MobileIP is used to maintain a network connection with the existing network and the IP address assigned to the computing device is used instead of a care of address assigned by the MobileIP for data that originates within the network.
- 10 8. A method according to claim 1 in which the computing device is capable of assessing security implications, bandwidth and speed of a proposed connection and before at least a portion of the network connection with the existing network for the data is broken and a network connection with the network for that portion of the network connection that was previously connected to the existing network is established, an assessment of at least one of the following is made: the security implications for the network; whether there is sufficient bandwidth in the network to support the new connection; whether a network connection to the network would be faster/slower than the network connection to the existing network.
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- 20 9. A computing device capable of establishing a network connection with, and capable of transmitting data to, an existing network, the device capable of determining the origin of data transmissions and further being capable of being given a care of address by a network which can be used to enable data transmission to the existing network such that data sent from the device generally uses the care of address, the device being arranged to communicate with the network without using the care of address if it is determined that data being sent to the device originates within the network.
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10. A device according to claim 9 which is arranged to receive a network address, which may be an IP address, to use whilst performing one of requesting and receiving data originating from within the network.
- 5 11. A device according to claim 10 which is arranged such that, once data no longer originates from within the network, the network address is no longer used.
- 10 12. A processing device capable of controlling a network and network connections within a network, the processing device being capable of allowing at least one computing device to make a network connection to the network, which connection is capable of transmitting data, whilst, at least initially, maintaining a network connection to an existing network, the processing device being arranged to provide the at least one computing device with a care of address allowing data to be routed from the existing network to the network, the at least one computing device comprising a data transfer controller capable of determining whether data being transmitted to the computing device originates within the network and if this is the case being further capable of considering whether the data should
- 15 20 transmitted without the use of the care of address.
- 25 13. A processing device according to claim 12 which is arranged to assign a network address, which may be an IP address, to a computing device once it has been determined that the care of address should not be used.
- 30 14. A processing device according to claim 12 which is capable of assessing at least one of the following parameters before determining that a care of address should not be used: the security implications for the network; whether there is sufficient bandwidth in the network to support the new connection; whether a network connection to the network would be faster/slower than the network connection to the existing network.

15. A network capable of allowing a computing device to establish a network connection therewith whilst maintaining a network connection to an existing network, by, initially at least, using a care of address for that 5 computing device within the network, a data transfer controller of a processing device of the network being arranged to determine whether data being transmitted to said computing device originates within said network and if this is the case being further arranged to consider whether said data should be transmitted without the use of said care of address.
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16. A memory storing instructions which when read on to at least one processing device cause that processing device to perform the method of claim 1.
- 15 17. A memory storing instructions which when read on to a processing device cause that processing device to function as the device of claim 9.
18. A memory storing instructions which when read on to a processing device cause that processing device to function as the device of claim 12.
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19. A memory storing instructions which when read on to a processing device running a network cause the network to function as the network of claim 15.
- 25 20. A method of establishing a network connection to a network, the network connection being capable of transmitting data from a computing device, the computing device having assigned thereto a network address from an existing network and having a network connection with the existing network, the method comprising:
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- i: providing the computing device with a care of address as it enters the network so that data intended for the computing device can be routed to the computing device whilst it is in the network;
- 5 ii: determining whether data requested by the computing device originates within the network;
- 10 iii: if the data requested by the computing device does originate within the network, breaking at least a portion of the network connection with the existing network and assigning a network address for the network to the computing device such that the data is sent to the computing device from the network rather than using the care of address for that portion of the network address that has had its connection to the existing network broken.
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21. A device capable of establishing a network connection with and capable of transmitting to, a home network, the device capable of determining the origin of data transmissions and further being capable of being given a care of address by a foreign network which can be used to enable data transmission to the home network such that data sent from the device generally uses the care of address, the device being arranged to communicate with the foreign network without using the care of address if it is determined that data being sent to the device originates within the foreign network.
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22. A server capable of controlling a network and network connections within a network, the server being capable of allowing at least one computing arrangement capable of connecting to a network to make a network connection to the network, the connection being capable of transmitting data, whilst, at least initially, maintaining a network connection to an existing network, the server being arranged to provide the at least one computing arrangement with a care of address allowing data to

be routed from the existing network to the network, the at least one computing arrangement comprising a data transerrer capable of determining whether data being transmitted to the computing arrangement originates within the network and if this is the case being further capable of

5 considering whether the data should transmitted without the use of the care of address.

23. A network capable of allowing a computing arrangement capable of establishing a connection with a network to establish a network connection

10 therewith whilst maintaining a network connection to an existing network, by, initially at least, using a care of address for that computing arrangement within the network, the network comprising a processing arrangement which further comprises a data transfer controller for determining whether data being transmitted to the computing arrangement originates within the

15 network and, if this is the case, being arranged to considering whether the data should transmitted without the use of the care of address.

24. A method of establishing a network connection capable of transmitting data from a computing device to a network wherein the computing device is capable of connecting to at least one foreign network and of making requests for data from the at least one foreign network and has a network connection with a home network, the method comprising:

25 i: determining whether data requested by the computing device originates within the foreign network;

ii: if the data requested by the computing device does originate within the foreign network, breaking at least a portion of the network connection with the home network and establishing a network connection with the foreign network for that portion of the network connection that was previously connected to the home network by assigning an IP address to the computing device within

- the foreign network for transmission of data that originates from the foreign network; and
- 5 iii. using MobileIP to maintain a network connection with the home network and the IP address assigned to the computing device is used to send data to the computing device instead of a care of address assigned by the MobileIP for data that originates within the foreign network.
- 10 25. A method according to claim 24 in which at least one of the foreign network and home network comprises a plurality of channels and the method is applied to at least one of the channels.
- 15 26. A method according to claim 24 which uses the Session Initiation Protocol (SIP) to initiate the breaking of the network connection to the home network.
- 20 27. A computing device capable of establishing a network connection with, and capable of transmitting data to, an existing network, the device being capable of determining the origin of data transmissions and further being capable of receiving a care of address from a network which can be used to enable data transmission to the existing network such that data sent from the device generally uses the care of address, if it is determined that data being sent to the device originates within the network then the device
- 25 is arranged to receive a network address to use whilst performing one of requesting and receiving data originating from within the network and thereafter the device being arranged to communicate with the network without using the network address until such time that data no longer originates from within the network after which the network address is no
- 30 longer used.

28. A computing device according to claim 27 in which the network address is an IP address.